# ASTRONOMY IN MITHILĀ-II

## (16th century A. D. to 20th century)

DR. PARMESHWARA JHA

[The paper entitled 'Astronomy in Mithilā' (10th century A. D to 15th century) by the present author has been published in the Journal of the Bihar Research Society, Vol. LXIII & LXIV, 1977-78, Patna, pages 247-57 in which it has been shown with sufficient grounds that Jyotiṣa has been a favourite of Maithila scholars from very early times and a large number of astronomical texts, big or small, original as well as commentative, have been written by them during the period ranging from the 10th century A. D. to the 15th century. Here, in this paper, a chronological account of authors who have composed books on the twin disciplines of astronomy and mathematics during the period, 16th century A. D. to the 20th century, has been given. Thus the two papers taken together will give a complete picture of the subject as it developed in Mithila and will also provide with the substantial material for the history of astronomy and mathematics in India].

Scholar kings of the Khaṇḍavalā dynasty (Darbhanga Rāj) maintained the rich tradition of Sanskrit learning in Mithilā and made remarkable contributions to astronomy and mathematics as also to other branches of knowledge. Mm. Maheśa Ṭhākura, the founder of Darbhanga Rāj, was himself one of the brightest gems who illumined the period. He was a Srotriya Brāhmaṇa of the Kharaure Bhaur origin belonging to Śāṅdilya gotra. He (born in decade 1500-1510 A. D.) was the youngest son of Candra Ṭhākura alias Cāna Ṭhākura and had three elder brothers, Mahādeva, Bhāgīratha and Dāmodara—all great scholars of the time. His teacher was Śucikara Jha, a pupil of Pakṣadhara Miśra (Jaideva). He had a number of disciples to his credit. Raghunandana, one of his learned disciples, gave away the Darbhanga Raj which he received from the emperor Akbar in recognition of his vast learning to his teacher (Maheśa Ṭhākura) by way of Gurudakṣinā in 1556 A. D. He was a versatile scholar. He was an authority on Nyāya and Mīmaṁsā and was also at home in Jyotiṣa. His writings include Āloka Pradīpa, Dāyasāra, Tithi-tattva-cintāmaṇi, Smṛti-Ratnākara, Aticāra-Nirṇayā and several other works on Dharmaśāstra.[1] Aticāra-Niṇaya is an astronomical treatise

1. cf. Dr. J. S. Jha, History of Darbhanga Rāj, J. B. R. S., XLVIII, 1962, Sec. I, pp. 14-104 and Dr. U. Ṭhakura, Sanskriṭ learning in Miṭhilā under the

which deals with the accelerated motion (Aticāra) of Jupiter and its adverse effects on human affairs and also on the performance of religious rites. Marriage Lagnas (known in Mithilā as Śuddha) are decided mainly on the movement of Jupiter. He, in this work, quoted the famous astronomical texts, Sūrya-Siddhānta, Rāja-Martaṇḍa and also Varahamihira. This work is still considered as a authority in finding out auspicious times for marriage and hence is extremely popular in Mithilā. As many as five copies of its manuscript have been found in different parts of Mithilā.[2] Initially it was published by K. L. Kṛṣṇadāsa, Laheriasarai (Darbhanga) in 1905 and edited and commented upon by Mm. Parmeśwara Jha. Later on, it was published by Mithilā Research Institute, Darbhanga in 1978 under the title Dharmaśastriya Nibandhāvalī along with his other four works namely Śuddhi Prakāśa, Prāyaścita Prakāśa, Dāyasāra and Tithitattva-cintāmani.

Mm. Hemāṅgada Ṭhākura (b. in decade 1550-60), son of Gopāla Ṭhākura and grandson of Mm. Maheśa Ṭhākura was the third King (1571-73) of the Khaṇḍavalā dynasty. He was an unrivalled astronomer of the age and has composed an astronomical text, Rāhūparāgapañjī (or Grahaṇamālā) in which he has calculated the occurrences of lunar and solar eclipses for about 1100 years (from Śaka 1542 to Śaka 2630). The work contains only the results of calculations specifying the exact dates, time and conic-directions of luni-solar eclipses. He does not mention the sources or formulae of calculations but the results are so accurate that its authenticity cannot be challenged.[3] It is believed that the method of calculation adopted in the work is based on the Makaranda-Sāraṇi which is itself based on the Sūrya-Siddhānta. The book is still studied and honoured by the scholars of Mithilā. One copy of its manuscript is preserved in the Sanskrit University Library, Darbhanga[4]

Khaṇḍavalā dynasty, Sec. II, pp. 91-104 and also Dr. P. Jha (the present author) Historical background of Mathematics and Astronomy in Mithilā, Gaṇita Bhāratī, 4, 1982, Delhi, pp. 26-40.

2. A descriptive catalogue of manuscripts in Mithilā, III, 1937, Patna, p. 2 ff and a Desc. Cat. of Mss. in Mithilā, I, 1923, Patna, p. 3 ff.

3. Cf. Dr. B. K. Jha, Contributions of Khaṇḍavalā dynashty to Astronomy and Mathematics, a thesis submitted to L. N. Mithila University, 1982, p. 105 ff.

4. Descriptive Catalogue of Rāj Mss., 1969, Darbhanga, S. N. 1850, p. 74.

and the other two copies are found with the families of Harinarāyana Miśra and Phuddi Jha of the villages Bhaṭṭapurā (Darbhanga) and Awāmā (Madhubani) respectively[5]. It has now been published by the Sanskrit University, Darbhanga which has been edited by Pt. Brajkishore Jha, retired professor of Jyotiṣa of the University.

Rājarṣi Parmānanda Ṭhākura (reign-period 1573 83 AD.), the fifth king of the dynasty and the third son of Mm. Maheśa Ṭhākura was a renowned astronomer and wrote an astronomical treatise, Siddhānta-Sudhā which deals with the calculation of movements of planets. This also is based on the Makaranda-Sāraṇi. A commentary on it named Siddhānta-Saudhā-Vyākhyā was written by Viṣṇudeva in Śaka 1603 (1681 AD.)[6].

Mm. Shubhaṅkara Ṭhākura (1583-1617 AD.), the youngest son of Maheśa Ṭhākura and the sixth king of Darbhanga Rāj wrote a work on Smṛti-Jyotiṣa, namely, Tithi-Nirṇaya dealing with auspicious times for religious and social ceremonies. This has been very popular in Mithilā for as many as twenty-seven copies of its manuscript have been found in personal possessions of different individuals of Mithilā[7]. One copy is safely preserved in the Sanskrit University library, Darbhanga[8]. We find the mention of his other works, too, namely Śrīhastamuktāvalī but that is now rare[9].

In addition to these works written by the king of Darbhanga Rāj a number of manuals relating to different aspects of astronomy, viz. Jātaka, Tājika and Yātrā prakaraṇas were composed by Maithila scholars in the 16th century. Dullaha Miśra who lived in Koilakha (Madhubani) in Śaka 1498 (1576 AD.) composed two books, both of them being com-

5. A Des. Cat. of Mss. in Mithilā, III, p. 57 and also P. Jha, Mithilā-Tattva-Vimarṣa, II, 1949, Darbhanga, p. 22.

6. A Des. Cat, of Mss. in Mithilā, III, p. 499 and 501.

7. A Des. Cat. of Mss. in Mithilā, I, p. 161 ff.

8. A Des. Cat. of Rāj Mss. S. N. 762, p. 30.

9. A Des. Cat. of Mss. in Mithilā II, 1933, Patna, p. 170 and Des. Cat. of Rāj Mss., S. N. 1616, p. 65.

mentaries, namely Tājika-Ṭippaṇī and Śrīpatipaddhatyudāharaṇam on Tājika of Nīlakaṇṭha and Śrīpatipaddhati of Śrīpati respectively[10].

Mahīdhara was also an astronomer of the 16th century who wrote Bṛhajjātaka-Tippanī in śaka 1520 (1598 A.D.), a commentary on Bṛhajjātaka of Varāhamihira.[11]

Another celebrated astronomer of the age is Śrīnivāsa Miśra who composed a manual of Jyotiṣa-Śāstrā named Śuddhi-Dīpikā dealing with the Yātrā prakaraṇa or Vyavahāra.[12] The popularity of the work may be judged from the fact that at least two commentaries have been written on it and those are Dīpikārtha-Prakāśikā by Rāghavācārya Ratna which was copied by Gauripati Śarmā of Moranana village (Darbhanga) in L. S. 488 (1607 A. D.) and Śuddhi-Dīpikā-Vyākhyā (or Vimalārtha-Kaumudī) by Kavi Kaṅkana. One copy of the manuscript is preserved in the Sanskrit University library, Drabhanga which was copied by some one in the village Tarauni (Darbhanga) in L. S. 515 (1634 A. D.).[13] One more copy is found in the possession of Ravinātha Jha of Andhrā Ṭhārtī (Darbhanga) which was copied by Hemāṅgada of the Kajāuli Mūla in the village Sahanā in Śaka 1653 (1731 A. D.).[14] All these informations make us believe that the author must have flourished in the later part of the 16th century during the reign of Mm. Śubhaṅkara Ṭhākura of the Khaṇḍavalā dynasty.

Prāṇadhara Miśra of Saurāṭha (Madhubani) probably of the same period composed Jātaka-Chandrikā, a manual dealing with horoscopy which was copied by Govinda of Patunagara in L. S. 509 (1628 A. D.). This is an original work of the author and has been extremely popular for seven copies of its manuscript have been found in different parts of Mithilā.[15]

---

10. A Des. Cat. of Mss. in Mithilā, III, p. 153 and 447.
11. Ibid., p. 264 ff.
12. Ibid., p. 439.
13. Des. Cat. of Rāj Mss., pp. 70-77.
14. A Des. Cat. of Mss. in Mithilā, III, p. 440.
15. Ibid., p. 85 ff.

Bharata Upādhyāya of the first half of the 17th century belonged to Māṇdara family of Mithilā and was the son of Yaśodhara and Mālatī was his mother. He wrote a work, Rasālā which is an astro-mathematical text dealing with Pāṭīgaṇita and the principles of Lagnaspuṭādhikāra.[16]

In the same century Viṣṇudeva, the son of Raghunandana of the Karmahā origin belonging to Śumbha village (Darbhanga), wrote an original book on astronomy named Ratna-Kalāpa in Śaka 1568 (1646 A.D.)[17] and also a commentary 'Siddhānta-Saudha-Vyākhyā' on Siddhānta Sudhā of Mm. Parmānanda Ṭhākura in Śaka 1603 (1681 A. D.).[18]

Mm. Gokulanātha Upādhyāya was the most celebrated scholar of the age. Like Maheśa Ṭhakura, the founder of Darbhanga Rāj, his was also a family of unrivalled scholars. His son, Mm. Raghunātha, the latter's son, Mm. Bhavānīdatta and their sons and grandsons were the undisputed scholars of the time. He was born in Śaka 1615 (1693 A. D.) in the village Mangarauni (Madhubani) and was the son of Mm. Pītāmbara Vidyānidhi belonging to Phaṇadāhā family of Vatsa gotra of Maithila Brāhmaṇas. He was a disciple of great Umāpati Upādhyāyā of Koilakha (Madhubani). He flourished during the reign of Rāghava Siṁha (1701-1739 A. D.), the twelfth King of the Khaṇḍavalā dynasty. He had equal command over Darśana, Vyākaraṇa, Sāhitya and Jyotiṣa. He was a prolific writer and is credited with the authorship of about 23 works on different branches of knowledge.[19] His writings on astronomy include (i) Dik Kāla-Nirupaṇam, (ii) Māsa-Mimāṁsā, (iii) Kuṇḍa-Kādambarī or Kuṇḍa-Sādhanā-Vidhi, (iv) Makaranda-Vāsanā, the last being a commentary on the Tithi-patra of Makaranda which deals with the formation of yearly calendar.[20] These works are still popular especially among the scholars of astronomy.

Kamalanayana Miśra hailed from the village Koilakha (Madhubani) and belonged to Sodarpur family of the Kaṭakā branch of Śāṇḍilya

16. Ibid., p. 348.
17. Ibid., p. 330.
18. Des. Cat. of Rāj Mss., S. N. 1910, p. 76.
19. cf. P. Jha, M. T. V. II, pp. 47-48.
20. A Des. Cat. of Mss. in Mithilā, III, p. 291.

gotra. He was the great grandfather of late Babuājī Miśra, formerly Professor of Jyotiṣa in Calcutta University and the father of Dr. B. N. Miśra, the renowned physician of Darbhanga. He was a contemporary of Mahārāja Viṣṇu Siṅha and Mahārāja Narendra Siṅha of Darbhanga Rāj. He wrote an original work, namely Janma-Paddhatiḥ or Jātaka-Paddhatiḥ in Saka 1662 (1740 A. D.) dealing with horoscopy and also a commentary, Bhāsvatyudāharaṇam on Bhāsvatī of Śatānand in Saka 1669 (1747 A. D.).[21] From the years mentioned in the two works it appears that he was a scholar of the early 18th century.

Yogīndra of the Pāli origin wrote a work, namely, Bhāsvatyudāharaṇam, a commentary on Bhāsvatī of Satānanda in Śaka 1664 (1742 A. D.) on the request of his pupils.[22] Its manuscript has been copied by Bacanū Śarmā in Śaka 1776 which is available with Mahidhara Miśra of Lālabāgha (Darbhanga). Mādhava Śarmā, a reputed scholar, belonged to the Budhavāla family and was the son of the Raghunātha, younger brother of Matinātha and elder brother of Mm. Govinda. Two astronomical texts are ascribed to his authorship and those are Adbhutadarpaṇaṃ dealing with omens and portents and Samāvivekavivṛttiḥ, a commentary on Samāviveka of Nīlakaṇṭha dealing with Phalabhāga composed in Śaka 1687 (1765 A. D.)[23].

Vasanta Miśra, son of Śūlapāṇī and grandson of Prāṇadhara Miśra, an author of Jātaka-Candrikā, composed an astronomical treatise, namely Jātaka-darpaṇaṃ which deals with horoscopy[24]. The earliest copy of the manuscript mentions the Śaka 1738 (1816 A. D.) and hence he might have flourished in the later part of the 18th century.

Iśvaradatta Śarmā of the Śakarāṭī origin belonged to Mādhopura village (Darbhanga). He wrote an astronomical text, Akṣaracūḍāmaṇi in Śaka 1735 (1813 A. D.) dealing with some astronomical theories and practices in answer to queries[25].

21. Ibid., p. 80 and 281.
22. Ibid., p. 280.
23. Des. Cat. of Rāj Mss., pp. 70-71.
24. A Des. Cat. of Mss. in Mithilā, III, p. 91.
25. Ibid., p. 2.

Vidyākara Miśra, son of Ānandakara Miśra wrote a commentary named Ṛtuvarṇana Vyākhyā on the Ṛtuvarṇana of Bhāskarācārya in Śaka 1747 (1825 A. D.)[26] and thus flourished in the beginning of the 19th century.

Lakṣmīnārāyaṇa was an author of an astronomical text, namely, Laghu saṁgraha which deals with different aspects of Saṁhita[27]. The manuscript is incomplete as eight folia are missing in the beginning. Date mentioned in it is Śaka 1752 (1830 A. D.). No other details are available but this much is evident that the author flourished in the beginning of the 19th century.

Jīvanātha Jha, a celebrated scholar of mathematics and astronomy flourished during the reign Mahārāja Chatra Siṁha (1807-39 A. D.), the 17th king of the Darbhanga Rāj. He was the son of Śambhunātha Jha, himself an astronomer and lived at Patna in Śaka 1745 (1823 A. D.). His descendants are still living in a village named Veṅkaṭapura situated at a distance of 17 miles from Patna on Patna-Bakhtiarpura road. His original works include (i) Bhāva-prakāśa, dealing with horoscopy, (ii) Vāstu-Ratnāvalī dealing with Vāstu-Vicāra, (iii) Bhāva-Kautuhalaṃ dealing with Phalabhāga, (iv) Vanamālā, dealing with raining (v) Śuddhyāśuddhi-vicāraḥ dealing with calculation of auspicious moments for ceremonial rites. Among his commentaries mention may be made of Uḍudāyapradīpa-vyākhyā, a commentary on Uḍudāyapradīpa of an anonymous author and Makarandodāharaṇaṃ a commentary on Tithipatra of Makaranda. It is also believed that he copied Bījagaṇita of Bhāskaracārya and Gaṇita-tattva-cintāmaṇi of Lakṣmīdāsa Miśra in Śaka 1764.[28]

Nīlāmbara Jha (1823-83), younger brother of Jīvanātha Jha, mentioned above, by virtue of his erudite scholarship, became the court Paṇḍita of Maharāja Śivadāsa Siṁha of the Alwara estate. He was a contemporary and also a close friend of Mm. Bāpūdeva Śāstrī, the then professor and head of the Jyotiṣa department of Sanskrit University, Varanasi. He was one of the foremost astronomers of Mithilā of the

26. Ibid., p. 20.
27. Ibid., p. 374.
28. Ibid., p. 40 and 250.

early 19th century and made significant contribution to mathematics and astronomy. He is credited with the authorship of at least 15 works. Kṣetra-paribhāṣā, dealing with different aspects of geometry, Pañcāṅga-vāsanā dealing with the calculation of yearly calendar, Janmapatrodāharaṇam dealing with specimens of horoscope with explanations and examples are some of his original writings. Among his commentaries on the works of Bhāskarācārya might be mentioned (i) Līlāvatyupapattiḥ, a commentary on Līlāvatī, (ii) Dṛkakarma-vyākhyā, (iii) Jyotpati-vyākhyā, (iv) Praśnottara-vyākhyā, (v) Valana-vyākhyā and (vi) Mahāpraśna-vyākhyā, Besides these, there are some other commentaries written by him, namely (i) Tattvaviveka-vyākhyā, (ii) Praśnādhyāya-vyākhyā and (iii) Makaranda-vyākhyā.[29]

Dharmeśvara, son of Rāmacandra composed a work, namely, Keśavapaddhati vāsanābhāṣyam or Jātakapaddhati vāsanāvaṣyodāharaṇam in Śaka 1767 (1845 A. D.) which is a commentary on the Jātakāpaddhati of Keśavācārya. He again commented upon the same work in Śaka 1775 (1853 A. D.) explaining the rules with examples.[30]

Tūphānī Jha, a resident of Mohanā village in the district of Darbhanga was a court Paṇḍita of Raja Surendranārāyaṇa Siṁha of the Baruārī Estate in the district of Saharsa. He was an eminent scholar and an astronomer too. His writings include (i) Abdacintāmaṇi written in Śaka 1767 (1845 A. D.) (ii) Kṛtya tattva-saṁgraha, written in Śaka 1775 (1853 A. D.) (iii) Kṛtyasudhārṇava, (iv) Kṛtya Viveka-Ratnākara and (v) Kṛtyaśiromaṇi,[31] the last one dealing with the calculations of auspicious times for the religious and social ceremonies.

Bhairavadatta, son of Harirāma, wrote a commentary on Uḍudāya-pradīpaḥ of Veñkaṭeśa named Uḍudāyapradīpodyottaḥ.[32] No personal details about him are known but this much is certain that he flourished

29. S. Dvivedi, Gaṇaka-Taraṅgiṇī, 1933, Benaras, p. 129 ff. and also S. B. Dixit, Bhāratīya Jyotiṣa, Lucknow, 1963, p. 411.
30. A Des. Cat. of Mss. in Mithilā, III, p. 31 and 105.
31. Des. Cat. of Rāj Mss., pp. 70-77 and also Ram Lochan Śaraṇa Jayanti Samāroha Grantha, 1942, Patna, p. 19.
32. A Des. Cat. of Mss. in Mithilā, III, p. 17.

before 1855 A. D. as the manuscript of the work has been copied by both Braja Lāla Śarmā and Kāve Śarmā in Śaka 1777 (1855 A. D.) and also by Apūch Jha in Śaka 1787 (1865 A. D.).

Nṛsiṁhadatta Miśra, son of Haradatta Miśra, composed an astronomical text, namely Makaranda-Saraṇyupapattiḥ, a commentary on the Tithipatra of Makaranda in Śaka 1780 (1858 A. D.)[33]

Apūch Jha, the elder brother of Mm. Khuddī Jha of village Koilakha (Madhubani) was a reputed astronomer of his time. He compiled an original work named Makaranda-Karanaṃ dealing with the methods for the formation of calendar and also transcribed Uḍudāyapradīpodyottaḥ of Bhairavadatta in Śaka 1787 (1865 A. D.).[34]

Bhānunātha Jha (or Bhānā Jha) was the son of Nandana Jha of Khauāla family of the village Pilakhabāḍa (Madhubani) and younger brother of Babujana Jha, a great Naiyāyika. He adorned the courts of Mahārāja Maheśvara Siṁha (1850-60 A. D.) and Mahārāja Lakṣmiśvara Siṁha (1878-98 A. D.). He wrote a book, Vyavahāra-Ratnaṃ dealing with the calculation of auspicious times for constructing a house, marriage, cultivation, yātrā, etc.[35] It was commented upon by Sitārāma Jha and published in V. S. 2000 from Varanaśi.

In addition to these scholars, there flourished a number of well-known astronomers in different ages who were patronised by the kings and Mahārājas of Darbhanga Rāj. There are informations, no doubt, regarding their astronomical feats and predictions, but it is not known whether they have written books also. Names and other details regarding some of these scholars are given below :—

(i) Mandhana Jha of Mangaraūni (Madhubani) during the reign of Mm. Purūśottama Ṭhākura (1618-25) (ii) Harihara Nīlakaṇṭha, son of Rāghava Jha and (iii) Mm. Narapati Jha, grandson of Parasūrāma Jha during Rāghava Siṁha's time (1701-39), (iv) Sarvajñana Jha of Jaraila (Madhubani) during the regime of Mahāraja Narendra Siṁha (1744-60),

33. Ibid., p. 292.
34. Ibid., p. 288 and p. 18.
35. Ibid., p. 421.

(v) Aniruddha Miśra of Lāla bāgha (Darbhanga) during Mahārāja Mādhava Simha's time (1776-1807), (vi) Mukteśvara Jha and (vii) Nandī Jha of Navānī (Darbhanga) and (viii) Dvārikānātha Jha of Canaura (Darbhanga) belonging to Sarisava family of Chādana branch of Śāndilya gotra in the court of Mahārāja Maheśvara Simha (1839-72), (ix) Śrīnātha Jha and (x) Bābājī Jha of Tarauni (Darbhanga) during the reign of Lakṣmiśvara Simha (1878)-98) and (xi) Bāsudeva Jha son of Jyotiṣī Dvārikānātha Jha of Canaura (Darbhanga) in the regime of Mahārāja Rameśvara Simha (1898-1929) and others[36].

A large number of commentaries as well as original texts on the twin disciplines of mathematics and astronomy have come to be composed in the land during the period ranging from the later part of the 19th century to the first half of the 20th century. It is believed that the number of these works exceeded those of all such works written previously and even excelled the number of all other works written by Maithila scholars on different branches in Sanskrit literature. Hence this period of about 100 years is very important and may be called as the golden period in the history of astronomy and mathematics in Mithilā. In this context a reference may be made here to the two great scholars of Sanskrit University, Varanasi, namely Mm. Bāpūdeva Śāstri (1821-90) and Mm. Sudhākara Dvivedī (b. 1860 A. D.), the latter succeeding the former as the head of the Jyotiṣa department who endeavoured to create a favourable environment for the proper growth and development of Jyotiṣa in Mithilā. Hundreds of students of Mithilā were attracted towards the studies of the subject and were given adequate training by them. Most of them having studied at their feet became renowned scholars in the field and they again, in turn, inspired Maithila students of the next generation to study Jyotiṣa. Thus the astronomical knowledge was handed down from teacher to disciple in succession and a chain of devoted scholars existed during the period who enriched the Jyotiṣa literature in Mithilā. Names and other details regarding some of them are as follows :—

36. cf. P. Jha, M. T. V., II, p. 27, 51 and Mithilānka, Mithilā Mihira 1936, p. 127 and also Bakshi, Mithilābhāṣāmaya Itihas, Darbhanga, p. 215, 328, 295-96 (f.n. 2).

Mm. Bāpūdeva Śāstrī had a number of disciples to his credit, namely, Govindalāla Jha of Madhukara caka (Madhepura), Keśava Chaudhary of Mahiṣī (Saharsa), Fekana Pāṭhaka of Karṇapura (Saharsa), Jaladhara Jha of Murādapura (Saharsa), Śrīnātha Ṭhakura of Mahiṣi (Saharsa) and several others. Most of them having received the highest degree in Jyotiṣa, stayed in their villages, taught the students of the area at their caupāḍis and composed astronomical texts as well. Fekana Pāṭhaka established a Pāṭhaśālā in his village where hundreds of students used to get primary education in Jyotiṣa from him. He, for the benefit of his disciples, transcribed some of the standard astronomical texts, viz., Laghujātakaṃ of Varahamihira, Śeṣavāsanā of Kamalākara, Bhūbhramaṇaṃ of Bāpūdeva Śāstri, Dṛkakarmavyākhyā of Nīlāmbara Jha, Vāstu-Ratnāvalī of Jīvanātha Jha, etc. In this connection, it will be worth-mentioning that in course of the search for Sanskrit mss. undertaken by the Govt. of Bihar in 1918, at least 51 copies of manuscripts of different astronomical and mathematical texts were found in the possession of his family members[37].

Keśava Chaudhary was the son of Amṛtanātha Chaudhary belonging to Budhavāre Mahiṣī origin of Vatsa gotra of Maithila Brāhmaṇas. Due to his erudite scholarship he was appointed as the court Paṇḍita of Maharāja of Jammu and Kashmira (father of Mahārāja Hari Siṁha and grand-father of Dr. Karna Siṁha). He wrote a number of books on different aspects of Jyotiṣa manuscripts of which are supposed to have been preserved in the library of the Mahārāja.[38]

Among the disciples of Mm. Sudhākara Dvivedī mention may be made of Kṛṣṇadatta Jha (Madhubani), Śaśipāla Jha, Batahana Jha, Dīnānātha Miśra all belonging to Darbhanga, Mm. Muralidhara Jha (Madhubani), Hari Jha (Saharsa), Rajju Jha (Saharsa), Siddhinātha Jha (Darbhanga), Genālāla Chaudhary (Madhubani). Harinandana Miśra (Darbhanga), Babuāji Miśra (Madhubani), Ayodhyānātha Miśra (Mādha-

37. Dr. P. Jha (the present author) Saharsa Jilāk Parisara Men Gaṇita Avam Jyotiṣaśāstrā (Maithili), Śmārikā, Vidyāpati Parva Samāroha, 1981, Saharsa, p. 4-5.

38. Dr. P. Jha (the present author), Kośī Pramandalaka parisara Men Gaṇita Avam Jyotiṣaśāstra, (Maithili) Kośī Kusuma, Saharsa, Jan-Feb, 1984, p. 13.

pura), Śrīdeva Chaudhary (Darbhanga), Haribanśa Jha (Supaul, Saharsa), Śrīnandana Miśra (Darbhanga), Dayānanda Jha (Madhepura), Sadananda Jha (Purnia), Rāmlāla Jha (Purnia) and several others.

Kṛṣṇadatta Jha, a resident of Bhakharaina (Madhubani) was appointed as a lecturer in the department of Jyotiṣa in Tīkamaṇi Sanskrit College, Varanasi. He composed two works on astronomy, namely. Jātaka-Krora and Pañcasvara, Candra Śekhara Jha, an author of Gola-Prakāśa, Cāpīya Trikoṇamiti, Golīya Rekhāgaṇita and also a commentary Vyakta-Vāsanā on Lilāvati of Bhāskarācarya, Rājabanśī Jha, an author of Goliya Cāpīya Rekhāganita, Anupalāla Jha and Madhu Kant Jha, both of them being teachers of Jyotiṣa in Pupari Sanskrit Vidyālaya and Varanasi Śyāma Vidyālaya respectively were some of his well-known students.[39]

Dinānātha Miśra, a learned astronomer of his time, worked as a lecturer in the department of Jyotiṣa, Govt. Sanskrit College, Varanasi alongwith his teacher Mm. Sudhākara Dvivedi.[40]

Mm. Muralidhara Jha (b. 1868) who hailed from Bharāma in the district of Madhubani was the first Maithila Jyotiṣavid who adorned the prestigious post of the Head of the Jyotiṣa department of the Govt. Sanskrit College, Varanasi after the retirement of his teacher Dvivedīji from the post. He got distinction in the field by editing the most reliable commentary—Marīci and Vāsanāvārtika on Siddhānta-Śiromani of Bhāskarācārya and also two mathematical works-trikoṇamiti and Bijagaṇita written by Bāpudeva Śāstri.[41]

Hari Jha (1865-1922), a resident of Baghavā in the district of Saharsa taught the students of the area at his own house. Ucita Chaudhary, Jaideva Miśra, Baidyanātha Ṭhākura, Avadhanārāyaṇa Jha, Rāmakṛṣṇa Jha and others were his disciples. He compiled two astronomical treatises, namely Abhyudaya and Cintamaṇi relating to Gaṇita and Phalita Jyotiṣa respectively.[42]

39. Baldeo Miśra, Mithilā Men Jyotiṣa (Hindi), JBRS, XLVIII, 1962, Patna Sec. II, p. 62 and 64.
40. Ibid., p. 62.
41. Ibid., p. 62.
42. (Reference no. 37), p. 6.

Batahana Jha (Darhbanga) wrote a commentary on Vāstavacandra Śṛngonnatti of Mm. Sudhākara Dvivedī while Harinandana Miśra edited three texts, namely Yogayātra of Varāhamihira, Ratnāvalī of Śrīpati and Aticāra-Nirṇaya of Maheśa Ṭhākura.[43]

Babuāji Miśra (father of Dr. B. N. Miśra, the renowned physician of Darbhanga) hailed from Koilakha in the district of Madhubani and belonged to Sodarpur family of the Kaṭakā branch of Śāṇḍilya gotra. He was an astronomer of repute and was appointed as the professor of Jyotiṣa in Calcutta university. He wrote a commentary on the Siddhānta-Śekhara of Śrīpati and edited with explanatory notes, the commentary of Makki Bhaṭṭa on the Khaṇḍakhādyaka of Brahmagupta.[44]

Genālāla Chaudhary, a resident of Hābīn Bhauvāra in the district of Madhubani was one of the renowned astronomers of Mithilā. Initially he started a school in his own village where hundreds of students studied Jyotiṣa at his feet. Later on, in the year 1923, he was appointed as a lecturer in the department of Jyotiṣa in Tīkamaṇi Sanskrit College, Varanasi where he worked for the rest of his life. He had a number of reputed disciples to his credit, viz., Dāmodara Miśra, Durgādatta Jha, Dayānanda Jha, Gaṅgādhara Miśra, Muralidhara Ṭhākura, Baldeo Miśra, Mahīdhara Jha and others.[45]

Dayānand Jha (1880-1960) who belonged to Isrāina Belā in the district of Madhepura, was appointed as the principal of Sanskrit College, Muzaffarpur. After retirement from the post worked as the traditional paṇḍita in Jyotiṣa in Mithilā Research Institute, Darbhanga for the rest of his life. He wrote a number of astronomical texts, viz, Bhābrama-Viveka, Vimaṇḍala-Vicāra, Sudhākara-Kalā-Kārikā and others and edited the commentary written by Dāmodara Miśra on Līlāvatī of Bhāskarācārya. Mukunda Miśrā (Darbhanga) and Kishori Jha of Baraila (Saharsa) were some of his noted disciples.[46]

Gaṅgādhara Miśra (1891-1943) was the son of Hansarāja Miśra, an inhabitant of Cainapur (Saharsa). He was one of the brilliant students

43. (Reference no. 39), p. 63.
44. Ibid.. p. 63 and also Dr. B. K. Jha, (Reference no. 3), p. 164.
45. (Reference no. 39), p. 62-63.
46. (Reference no. 37), p. 9.

of Genālala Chaudhary and was awarded with a number of degrees in Jyotiṣa, namely Jyotiṣācārya, Jyotiṣa-Tīrtha and Jyotiṣa-Ratna by different Universities. He worked as the Principal of Sanskrit College, Pratāpagarh (U. P.) for five years and then as the head of the Jyotiṣa department in Balananda Sanskrit College, Deoghar for the rest of his life. Mention may also be made of some of his renowned disciples, viz., Padmaśrī Viṣṇukant Jha (Patna), President awardee Sundaralāla Jha (Katihar), Lakhanlāla Jha (Deoghar), Kṛṣṇadeva Pāṭhak, Rāmyaśa Tripāthy, Gaṅgādhara Śarma and others. He compiled two astronomical treatises, namely, Bīja-Vāsanā and Jyotiṣa-Prabandha-Maṇimālā and wrote commentaries on Vāstavacandra-Śṛngonnatti-Sādhana and Pratibhā-Bodhakaṃ—the two works of Mm. Sudhākara Dvivedī, Siddhāntatattva-Viveka of Kamalākara and Tājika-Nīlakaṇṭhī of Nīlakaṇṭha[47].

Baldeo Miśra (b. 1890), son of Culhāya Miśra of Bangāon (Saharsa) belonged to the Sodarpuriye Sarisaba origin of Maīthila Brāhmaṇas. He was, first of all, appointed as a librarian of Sarasvati Bhawana Library of Govt. Sanskrit College, Varanasi. Later on, he worked as the Principal of Sanskrit College, Khurakhura (Gaya) and then as a teacher of mathematics in Kāśī Vidyāpīṭha. Due to his keen interest in researches he was appointed as a research scholar in 1952 in the Jayaswal Research Institute, Patna where he worked till 1969. His writings include Bījagaṇita, Trikoṇamiti, a commentary on the Āryabhaṭīyaṃ of Āryabhaṭa, Bhāratīya Jyotiṣaśāstra kī Utpatti, Jyotiṣaśāstra ki Navaratna, etc. He edited and commented upon the two works of Mm. Sudhākara Dvivedī, namely Calana-Kalana and Dīrgha-Vṛta[48].

Muralīdhara Ṭhākura, a resident of Sugamā (Saharsa) was also one of the noted disciples of Genālāla Chaudhary. He worked in several institutions on different prestigious posts, viz, a research scholar in Lucknow University, a lecturer in the Jyotiṣa department of Balananda Sanskrit College, Deoghar, principal in the Sanskrit College, Forbesganj (Purnia) and in the end the traditional paṇḍita in Jyotisa in Mithilā Research Institute, Darbhanga. He had a number of disciples to his

47. Ibid., p. 10.
48. Ibid., p. 11 and Laliteśa Miśra, Jyotiśi Baldeo Miśra, Matipani Jan, 1985, Paṭna, p. 10-12.

credit, namely, Kāmeśvara Jha of Bathanāhā (Saharsa), Principal, Sanskrit College, Sukhasenā (Purnia), Kṛṣṇaballava Jha of Khajurāhā (Saharsa), Śivacandra Jha of Buāvī (Saharsa) and others. His original works include cāpīya Trikoṇamiti, Paravalaya Kṣetra, Horahācakra, calana-kalana, Siddhānta-setu, Bīja-gaṇita, etc. He wrote commentaries on several ancient works, viz., Līlāvati and Siddhānta-Śiromaṇi of Bhāskārācārya, Siddhānta-Sārva Bhauma of Munīśvara, Siddhānta-tattva viveka of Kamalākara and Āryabhaṭiyaṃ of Āryabhaṭa.[49]

Sītarāma Jha, a resident of Caugāmā (Darbhanga) and a noted student of Śrīnandana Miśra worked in different institutions and in the end was appointed as a traditional Paṇḍita in Jyotiṣa in Govt. Sanskrit College, Varanasi. A number of commentaries on different standard works, viz. Sūrya-Siddhānta, Graha-Lāghava of Gaṇeśa, Līlāvatī of Bhāskarācārya and Vyavahara-Ratna of Bhānunātha Jha are written by him.[50]

Kapileśvara Chaudhary (Darbhanga) who was a student of Siddhinātha Jha worked as the Inspector of Sanskrit Ṭolas and wrote commentaries on Sūrya-Siddhānta and Jātaka-pārijāta.[51]

Mukunda Miśra (Darbhanga) was a noted student of Dayānanda Jha. He composed two commentaries, one on Brāhmasphuṭa-Siddhānta of Brahmagupta and the other on the Siddhānta of Ācārya Baṭeśvara both of which have been published by the Research Institute of Ancient Indian Scientific Studies, New Delhi.[52]

Besides these, several manuals on different aspects of astronomy and mathematics were compiled by such Maithila scholars whose dates and personal details are almost entirely unknown and hence it could not be possible, here, to include them all. It is gratifying to note that even during modern times there are scholars of repute who have been devoting their time and energy to enrich the Jyotiṣa literature in the land; some of them are Lakhanlāla Jha (Deoghar), Braj Kishore Jha (Darbhanga),

49. Ibid., p. 11-12.
50. (Reference no. 39). p. 64.
51. Ibid., p. 64.
52. Ibid., p. 64.

Ācārya Parmānandana Śāstri (Patna), Jīvānanda Ṭhākura (Darbhanga), Bholā Jha (Jagatpur, Saharsa), Sundaralāla Jha (Katihar), Candra Kānt Jha (Simarabani, Purnia), Rāmcandra Jha (Darbhanga), Saccidānanda Jha (Madhubani) and others.

From the informations gathered so far it may be conveniently said that there flourished a number of reputed scholars in Mīthilā who endeavoured to continue the tradition of Jyotiṣa learning and even promoted the astronomical studies by their expositions and interpretations. A considerable number of compending and manuals relating to Gaṇita, Saṁhitā and Jātaka Skandhas of Jyotiṣa were produced and notable contributions were made to the twin disciplines during the period under consideration. It is believed that hundreds of texts are still available in the form of manuscripts in manuscript repositories and personal possessions of the individuals. It is quite possible that further examinations of these repositories may result in more discoveries and identifications. Hence there is the need for further researches in this regard so that the salient achievements of Maithila scholars in astronomy and mathematics may be brought to light.

Reader and Head.
Dept. of Mathematics,
Supaul (Saharsa)

# THE JOURNAL
## OF
# THE BIHAR RESEARCH SOCIETY

Vols. LXXI, LXXII & LXXIII January-December 1985-87 Pts. I-IV

*Chief Editor*

**UPENDRA THAKUR**




PUBLISHED BY

THE BIHAR RESEARCH SOCIETY

PATNA